

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-15. (Cancelled)

16. (Original) A substantially purified nucleic acid molecule that encodes a protein comprising the amino acid sequence of SEQ ID NO: 33.

17. (Original) The substantially purified nucleic acid molecule of claim 16, wherein the nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO: 4.

18. (Original) A substantially purified nucleic acid molecule that specifically hybridizes to a nucleic acid sequence of SEQ ID NO: 4 or its complement, wherein the nucleic acid molecule encodes a protein comprising the amino acid sequence of SEQ ID NO: 33.

19. (Original) The substantially purified nucleic acid molecule according to claim 18, wherein said nucleic acid molecule specifically hybridizes to a nucleic acid sequence of SEQ ID NO: 4 or its complement under high stringency conditions.

20. (Original) The substantially purified nucleic acid molecule according to claim 18, wherein said nucleic acid molecule specifically hybridizes to a nucleic acid sequence of SEQ ID NO: 4 or its complement under low stringency conditions.

21. (Original) A substantially purified nucleic acid molecule comprising a nucleic acid sequence which encodes a plant HES1 protein.

Claims 22. – 24. (Cancelled)

25. (Currently Amended) A plant having a nucleic acid molecule which comprises: (A) a promoter region which functions in a plant cell to cause the production of a mRNA molecule; (B) an exogenous structural nucleic acid molecule encoding a protein or fragment thereof comprising an amino acid sequence selected from the group consisting of ~~SEQ ID NOs: 30, 31, 32, 33 and 34~~ SEQ ID NO: 33 and fragments thereof, and (C) a 3'non-translated sequence that functions in the plant cell to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3'end of the mRNA molecule.

26. (Original) The plant according to claim 25, wherein said plant is selected from the group consisting of maize, canola, soybean, crambe, mustard, castor bean, peanut, sesame, cottonseed, linseed, safflower, oil palm, flax and sunflower.

27. The plant according to claim 25, wherein said plant exhibits increased phytosterol levels relative to a plant with a similar genetic background but lacking said exogenous structural nucleic acid molecule.

Claims 28. – 29. (Cancelled)

30. (Original) A plant having a nucleic acid molecule which comprises: (A) a promoter region which functions in a plant cell to cause the production of a mRNA molecule; (B) an exogenous structural nucleic acid molecule encoding a HES 1 protein or fragment thereof, and (C) a 3' non-translated sequence that functions in the plant cell to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3' end of the mRNA molecule.

31. (Original) The plant according to claim 30, wherein said plant is selected from the group consisting of maize, canola, soybean, crambe, mustard, castor bean, peanut, sesame, cottonseed, linseed, safflower, oil palm, flax and sunflower.
32. (Original) The plant according to claim 31, wherein said plant exhibits increased phytosterol levels relative to a plant with a similar genetic background but lacking said exogenous structural nucleic acid molecule.
33. (Original) The plant according to claim 31, wherein said HES-1 protein has the amino acid sequence of a yeast HES-1 protein.
34. (Original) The plant according to claim 31, wherein said HES-1 protein has the amino acid sequence of a plant HES1 protein.
35. (Original) The plant according to claim 34, wherein said HES-1 protein has the amino acid sequence of a maize or soybean HES 1 protein
36. (Currently Amended) A method of producing a plant containing an expressed HES 1 protein or fragment thereof in a plant comprising: (A) transforming the plant with a functional nucleic acid molecule, wherein the functional nucleic acid molecule comprises a promoter region, wherein the promoter region is linked to a structural region, wherein the structural region comprises a nucleic acid sequence that encodes a protein having an amino acid sequence of SEQ ID NO: 33 ~~selected from the group consisting of SEQ ID NOs: 30, 31, 32, 33 and 34~~, wherein the structural region is linked to a 3' non-translated sequence that functions in the plant to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3' end of a mRNA molecule; and wherein the functional nucleic acid molecule results in overexpression of the protein; and (B) growing the transformed plant.

37. (Currently Amended) The method of producing a plant according to claim 36, wherein said plant is selected from the group consisting of maize, canola, soybean, crambe, mustard, castor bean, peanut, sesame, cottonseed, linseed, safflower, oil palm, flax and sunflower.

38. (Original) The method of producing a plant according to claim 36, wherein said plant exhibits increased phytosterol levels relative to a plant with a similar genetic background but lacking said exogenous structural nucleic acid molecule.

39. (Original) A method of producing a plant containing an expressed HES 1 protein or fragment thereof in a plant comprising: (A) transforming the plant with a functional nucleic acid molecule, wherein the functional nucleic acid molecule comprises a promoter region, wherein the promoter region is linked to a structural region, wherein the structural region comprises a nucleic acid sequence that encodes a HES 1 protein, wherein the structural region is linked to a 3' non-translated sequence that functions in the plant to cause termination of transcription and addition of polyadenylated ribonucleotides to a 3' end of a mRNA molecule; and wherein the functional nucleic acid molecule results in overexpression of the protein; and (B) growing the transformed plant.

40. (Currently Amended) The method of producing a plant according to claim 39, wherein said plant is selected from the group consisting of maize, canola, soybean, crambe, mustard, castor bean, peanut, sesame, cottonseed, linseed, safflower, oil palm, flax and sunflower.

41. (Original) The method of producing a plant according to claim 40, wherein said plant exhibits increased phytosterol levels relative to a plant with a similar genetic background but lacking said exogenous structural nucleic acid molecule.

Claims 42. – 46. (Cancelled)